Traffic Impact Assessment

Proposed Quail Ridge Country Club Redevelopment
Acton, Massachusetts
September 20, 2007
WDG Project No. 07-0907-1

Prepared For: Acorn Park Condominium Association
Robert F. Luz, President
2 Hazelnut Street
Acton, Massachusetts 01720

Prepared By: Woodland Design Group, Inc.
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September 20, 2007

Mr. Robert F. Luz
President
Acorn Park Condominium Association
2 Hazelnut Street
Acton, MA 01720

RE: Traffic Impact Assessment
Proposed Quail Ridge Country Club Redevelopment
Acton, Massachusetts
WDG Project No. 07-0907-1

Dear Mr. Luz:

As requested, Woodland Design Group, Inc, (WDG) has reviewed the potential traffic impacts associated with the proposed redevelopment of the Quail Ridge Country Club in Acton, Massachusetts. As currently proposed, the existing 18-hole golf course would be converted to a 9-hole golf course to accommodate the construction of 177 age-restricted housing units (The Residences), and a 51-seat restaurant. As part of the proposed project, two new access roads would be constructed, connecting the Quail Ridge site to the existing Acorn Park residential neighborhood, via Hazelnut Street and Palmer Lane. This assessment focuses on the specific traffic impacts on the abutting Acorn Park residential neighborhood located directly adjacent and to the north of the project site.

Our assessment is based on a review of the Traffic Impact Study for The Residences at Quail Ridge, Acton, Massachusetts (Dated March 2007) prepared by Conley Associates, and "The Residences at Quail Ridge, Senior Residence Special Permit, Acton, Massachusetts" (Dated July 18, 2007) prepared by Stamski and McNary, Inc. WDG has also conducted an independent review of the anticipated impacts on the Acorn Park residential streets, which were not analyzed in the Conley Traffic Impact Study.

Based on a review of the Conley Associates Traffic Impact Study, and the supplemental analysis conducted as part of our study, we conclude that, as currently proposed, the projected traffic increases associated with the proposed redevelopment of the Quail Ridge Country Club can not be accommodated within the roadway infrastructure of the Acorn Park neighborhood.

Potential access alternatives that would greatly reduce the projected traffic impacts on the Acorn Park neighborhood would be to eliminate the two proposed roadway connections to Acorn Park, or to designate these connections as gated emergency access only, which would prevent their use by the general driving public. This would require all of the proposed development traffic to access the site via Skyline Drive. The existing traffic counts on Acorn Park Drive just west of Great Road are still higher than the projected traffic flows on Skyline Drive under this circumstance. The additional traffic on Skyline drive

may require additional roadway and/or traffic control improvements at the intersection of Great Road to provide acceptable traffic operations during the weekday morning, weekday evening and Saturday midday peak hours. This report documents our findings.

Project Description

The Quail Ridge Country Club currently consists of an 18-hole golf course with associated amenities, including a swimming pool, tennis courts and family recreation center, situated on a 148.9 ± acre site on the west side of Great Road in Acton, Massachusetts. Access to the site is currently provided via Skyline Drive, which in turn provides access to Route 2A (Great Road). The project site directly abuts the existing the Acorn Park residential neighborhood located just north of the project site. As currently proposed, the existing 18-hole golf course would be converted to a 9-hole golf course to accommodate the construction of 177 age-restricted housing units, and a 51 seat restaurant. As part of the proposed project, two new access roads would be constructed connecting the Quail Ridge site to the existing Acorn Park residential neighborhood, via Hazelnut Street and Palmer Lane. These narrow, 20-foot wide residential streets in turn provide indirect access to Great Road via Acorn Park Drive, which itself is also only 20-feet wide for most of its length. The project site in relation to the Acorn Park residential neighborhood is presented in Figure 1.

Project Site-Generated Traffic

As presented in the Traffic Impact Study prepared by Conley Associates, vehicle trip estimates for the proposed project were determined based on data presented in the Institute of Transportation Engineers' publication *Trip Generation, 7th Edition*. Vehicle trip estimates for the proposed 177 age-restricted residential units were developed based on the average of the ITE trip generation rates for land use 230 (Residential Condominium/Town House) and ITE land use 251 (Senior Adult Housing – Detached). As discussed in the Conley study, the vehicle trip estimates for the existing 18-hole golf course and proposed replacement 9-hole golf course were developed based the ITE trip rates for land use 430 (Golf Course). A summary of the existing 18-hole golf course traffic and new traffic associated with the proposed development is presented in Table 1.

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FIGURE 1

SITE LOCATION MAP
THE RESIDENCES AT QUAIL RIDGE
ACTON, MASSACHUSETTS

Table 1 Vehicle Trip Generation Summary

Time Period	Trips for the Existing 18 Hole Golf Course[1]	Trips Associated with The Residences at Quail Ridge: Proposed 9 Hole Golf Course[2]	Phase I Residential (97 Units)[3]	Phase II Residential (80 Units)[4]	Total Project Trips	Net Traffic Increases Due To Project
Weekday Daily						
Enter	322	161	232	192	**585**	+263
Exit	321	161	232	191	**584**	+263
Total	643	322	464	383	**1,169**	+526
Weekday Morning Peak Hour						
Enter	32	16	7	6	**29**	-3
Exit	8	4	24	20	**48**	+40
Total	40	20	31	26	**77**	+37
Weekday Afternoon Peak Hour						
Enter	22	11	25	21	**57**	45
Exit	27	14	12	11	**37**	+10
Total	49	25	37	32	**94**	+55
Saturday Midday Peak Hour						
Enter	40	20	19	15	**54**	+14
Exit	43	21	17	15	**53**	+10
Total	83	41	36	30	**107**	+24

[1] Based on ITE Land Use 430 – Golf Course assuming 18 holes.

[2] Based on ITE Land Use 430 – Golf Course assuming 9 holes.

[3] Based on an average of the trip rates for ITE Land Use 230 and ITE Land Use 251 assuming 97 residential units.

[4] Based on an average of the trip rates for ITE Land Use 230 and ITE Land Use 251 assuming 80 residential units.

Project Trip Distribution Patterns

As stated in the Conley Traffic Impact Study, the project trip distribution patterns were developed based on existing travel patterns in the vicinity of the project site. The general project trip distribution patterns suggest that approximately 30 percent of the project trips would be oriented to and from the north on Great Road, north of Acorn Park Drive, 5 percent of the project trips oriented to and from the east on Harris Street, east of Great Road, and the remaining 65 percent oriented to and from the south on Great Road, south of Skyline Drive.

Based on a review of the project trip assignments presented in the Conley study, it is our understanding that 100 percent of the golf course traffic will be oriented to and from the existing driveway on Skyline Drive. For the purpose of this assessment, it is assumed that none of the golf course traffic would access the site via Acorn Park Drive, and would therefore not result in traffic increases on the Acorn Park neighborhood streets. Conversely, the reduction in golf course traffic projected by Conley Associates by converting the golf course from 18 to 9 holes would only reduce traffic flow on Skyline Drive. A review of the residential trip assignments indicates that approximately 44 percent of the proposed residential traffic would cut-through the Acorn Park residential neighborhood to access Great Road via Acorn Park Drive. Based on a review of the proposed site plan, it is anticipated that 44 percent of the proposed Phase I residential traffic would access the site from Palmer Lane via Acorn Park Drive

and 44 percent of the Phase II residential traffic would access the site from Hazelnut Street via Acorn Park Drive. The resulting residential project trip distribution patterns are presented in Figure 2.

Projected Traffic Increases on Acorn Park Neighborhood Streets

Vehicle trip estimates for the existing traffic on the Acorn Park residential streets were developed by applying the ITE average trip rates for land use 210 (Single-Family Detached Housing) to the number of homes served by each roadway segment. These estimates are believed, based on anecdotal evidence provided by members Acorn Park Condominium Association, to under-estimate (perhaps substantially) actual residential traffic generation within Acorn Park (which was not measured in the Conley study). The anticipated traffic increases associated with the proposed Quail Ridge redevelopment project were then added to the ITE-based estimate of existing traffic on these roadways based on the vehicle trip generation estimates and project trip distribution patterns, as discussed in previous sections of this report. The traffic projection model used to determine the existing and projected future traffic volumes on the Acorn Park residential streets is presented in the Appendix of this report. A summary of the existing and projected future traffic levels for key roadways within the Acorn Park neighborhood is presented in Table 2 and shown in Figure 3.

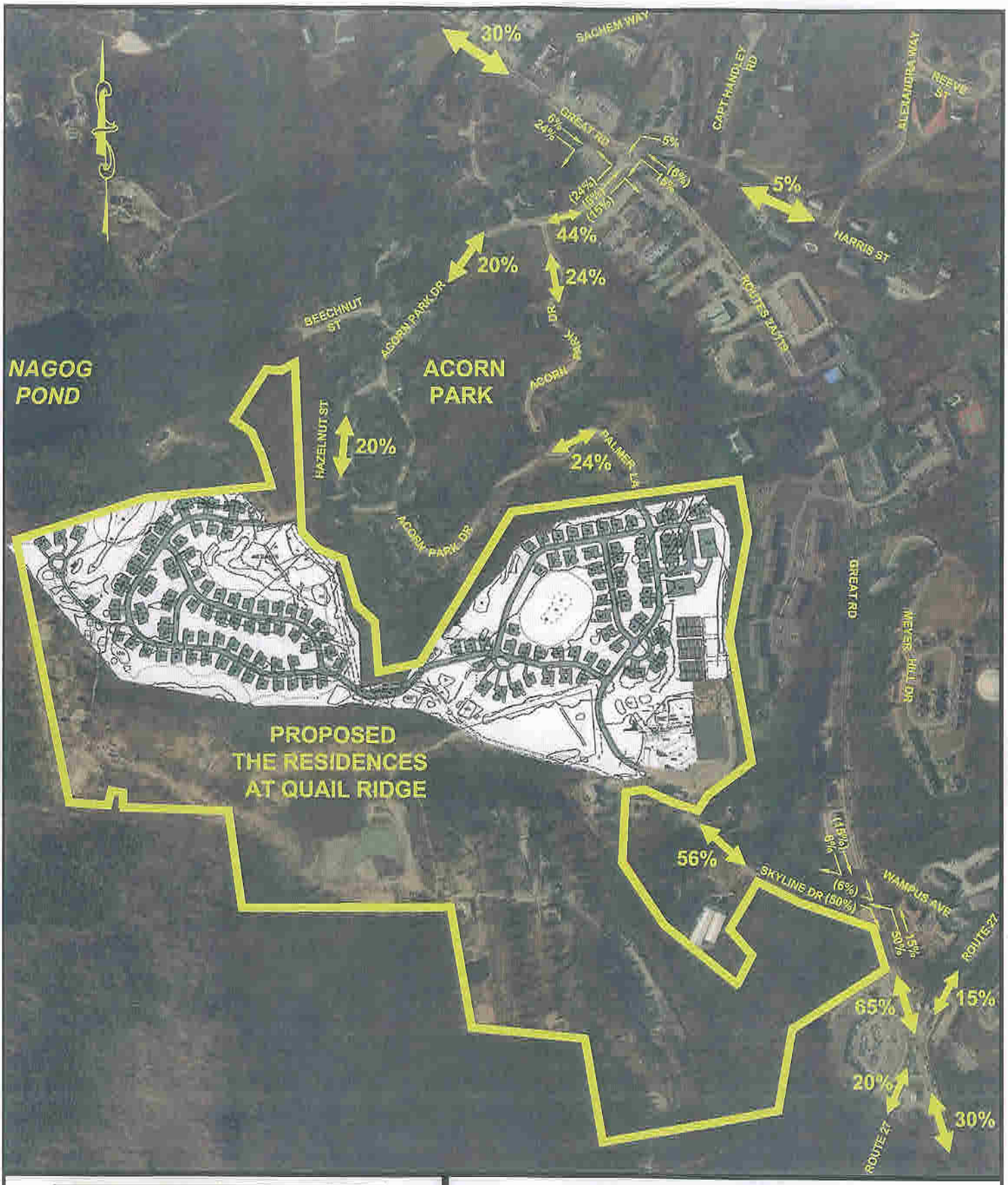

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FIGURE 2

ARRIVAL DEPARTURE PATTERNS
THE RESIDENCES AT QUAIL RIDGE
ACTON, MASSACHUSETTS

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FIGURE 3

ROADWAY DAILY TRAFFIC VOLUMES
THE RESIDENCES AT QUAIL RIDGE
ACTON, MASSACHUSETTS

Table 2 Projected Weekday Daily Traffic Increases

Roadway Segment	Acorn Park Drive South of Great Road	Acorn Park Drive South of Commercial Driveways	Acorn Park Drive southeast split to Palmer Lane	Palmer Lane East of Acorn Park Drive	Hazelnut Street West of Acorn Park Drive
Existing Traffic					
Enter	605	392	105	24	57
Exit	910	393	106	24	58
Total	1,515	785	211	48	115
Phase I Residential Project Trips (97 Units)					
Enter	102	102	102	102	0
Exit	102	102	102	102	0
Total	204	204	204	204	0
Phase II Residential Project Trips (80 Units)					
Enter	84	84	0	0	84
Exit	84	84	0	0	84
Total	168	168	0	0	168
Phase I & II Trips (177 Units)					
Enter	186	186	102	102	84
Exit	186	186	102	102	84
Total	372	372	204	204	168
Full Build Traffic Volumes					
Enter	791	578	207	126	141
Exit	1,096	579	208	126	142
Total	1,887	1,157	415	252	283
Percent Traffic Increases Due to Project					
Enter	30.7%	47.4%	97.1%	425%	147.4%
Exit	20.4%	47.3%	96.2%	425%	144.8%
Total	24.6%	47.4%	96.7%	425%	146.1%

As shown in Table 2, the proposed project would result in traffic increases of 24.6 % to 425 % relative to the calculated existing traffic volumes on the Acorn Park neighborhood streets. In fact the projected traffic increases on the Acorn Park residential roadways (at + 381 vehicle trips daily) are more than double the projected traffic increases on Skyline Drive, due to the reduction in golf-related traffic which will only benefit Skyline Drive. As a result the proposed redevelopment will only add 153 vehicle trips on a typical weekday to Skyline Drive traffic.

It should be noted that many of the roadways within Acorn Park were designed to meet the Town of Acton's low intensity local roadway standards, with a pavement width of 20 feet and an intended maximum traffic flow of 250 vehicle trips per day (as stated in the Town of Acton Subdivision Rules and Regulations, Dated October 15, 2001 Typical Roadway Section). The traffic increases associated with the proposed project will exceed the intended maximum daily traffic flow of 250 vehicle trips per day for the low intensity local roadways along Hazelnut Street, Palmer Lane and portions of Acorn Park Drive. The roadway classifications for the low intensity local roadways (20 foot pavement width) and standard subdivisions roadways (24 foot pavement width) within the Acorn Park residential neighborhood are shown in Figure 4.

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FIGURE 4

ACORN PARK ROADWAY CLASSIFICATION
THE RESIDENCES AT QUAIL RIDGE
ACTON, MASSACHUSETTS

Intersection Capacity Analysis

The intersection capacity analysis summary provided in the Conley Associates Traffic Impact Study indicates that the critical side street movements at the intersection of Great Road and Acorn Park Drive currently operate at Level-of-service (LOS) F with significant delays (greater than 100 seconds per vehicle) during the weekday morning, weekday evening and Saturday midday peak hours. However, the study understates the proposed project's impacts on the future traffic operations at the study area intersections by not including summaries of the volume-to-capacity ratios and actual projected vehicle delays for the critical movements at the study intersections.

The volume-to-capacity ratio (v/c) is a measure of the intersection's ability to accommodate the projected traffic volumes, and is calculated by dividing the projected traffic volume by the theoretical carrying capacity of the intersection approach. A v/c ratio greater than 1.0 indicates that the projected traffic demand has exceeded the theoretical capacity for the intersection approach. Based on a review of the intersection capacity analysis worksheets provided in the Appendix of Conley Associates Traffic Impact Study, the critical Acorn Park Drive eastbound approach at Great Road currently operates below capacity during the weekday evening commuter peak hour with a volume-to-capacity ratio of 0.82 and a projected delay of 354.1 seconds per vehicle. With the projected traffic increases associated with general background traffic and other planned developments in the vicinity of the site, the Acorn Park Drive eastbound approach at Great Road is projected to operate above capacity with a v/c ratio of 1.3 and projected delay of 691.0 seconds per vehicle. Traffic increases associated with the proposed project will further exacerbate these delays with 887.1 seconds per vehicle and a v/c ratio of 1.73, indicating that the movement will exceed the theoretical capacity by 73 percent during the weekday evening commuter peak hours. These unacceptable traffic operations could result in drivers accepting shorter gaps in the traffic flow on Great Road, potentially resulting in increased accidents at the intersection.

The analysis also indicates that the Skyline Drive eastbound approach at Great Road also currently operates with significant delays during these same periods and is projected to operated at LOS F with a volume to capacity ratio of 4.17 and an incalculable delay during the projected 2012 Build (with Project) weekday evening commuter peak hour conditions. This approach exceeds the theoretical carrying capacity by over 400 percent, and may result in even greater diversion of traffic from the proposed redevelopment of Quail Ridge through the Acorn Park neighborhood as the future residents attempt to avoid the delays the Skyline Drive intersection at Great Road. In fact, all of the study area intersections are projected to operate above the theoretical capacity during one or more of the peak hours analyzed.

A complete summary of the intersection capacity analysis including the actual projected intersection delays and volume-to-capacity ratios is presented in Table 3.

Table 3 Intersection Capacity Analysis Summary

	2007 Existing			2012 No-Build			2012 Build		
Location	**LOS[1]**	**Delay[2]**	**v/c[3]**	**LOS**	**Delay**	**v/c**	**LOS**	**Delay**	**v/c**
Signalized Intersection (Percentile)									
Great Rd/Main St									
AM Peak Hour	B	17.2	0.74	B	19.1	0.80	B	19.8	0.82
PM Peak Hour	C	27.0	0.98	D	40.4	1.08	D	42.7	1.09
SAT Peak Hour	C	33.8	1.05	D	50.3	1.16	D	51.1	1.17
Unsignalized Intersections									
Great Rd/Harris St/Acorn Park Dr									
LT/TH from Harris St WB									
AM Peak Hour	F	82.9	0.31	F	121.6	0.42	F	133.7	0.44
PM Peak Hour	F	153.8	0.50	F	262.4	0.71	F	286.5	0.75
SAT Peak Hour	F	106.2	0.22	F	151.9	0.29	F	167.0	0.39
RT from Harris St WB									
AM Peak Hour	B	11.7	0.13	B	12.1	0.14	B	12.1	0.14
PM Peak Hour	C	24.2	0.35	D	29.8	0.42	D	29.7	0.42
SAT Peak Hour	C	16.5	0.12	C	18.1	0.14	C	18.0	0.14
LT from Acorn Park Dr EB									
AM Peak Hour	F	85.8	0.18	F	119.9	0.24	F	171.2	0.54
PM Peak Hour	F	354.1	0.82	F	691.9	1.30	F	887.1	1.73
SAT Peak Hour	F	139.9	0.36	F	214.0	0.49	F	304.8	0.76
TH/RT from Acorn Park Dr EB									
AM Peak Hour	C	22.1	0.15	D	26.1	0.19	D	28.8	0.25
PM Peak Hour	C	24.6	0.15	D	30.1	0.19	D	29.3	0.20
SAT Peak Hour	C	19.6	0.13	C	22.2	0.15	D	29.2	0.24
Great Rd NB									
AM Peak Hour	A	0.5	0.02	A	0.6	0.02	A	0.6	0.02
PM Peak Hour	A	1.1	0.04	A	1.3	0.04	A	1.6	0.05
SAT Peak Hour	A	1.4	0.05	A	1.7	0.06	A	1.9	0.06
Great Rd SB									
AM Peak Hour	A	2.7	0.10	A	3.1	0.11	A	3.1	0.11
PM Peak Hour	A	3.3	0.13	A	4.0	0.15	A	4.0	0.15
SAT Peak Hour	A	1.7	0.06	A	2.0	0.07	A	2.0	0.07
Great Rd/Skyline Dr									
LT from Skyline Dr EB									
AM Peak Hour	E	45.0	0.03	F	61.1	0.05	F	61.1	0.08
PM Peak Hour	F	974.6	1.39	F	*	3.78	F	*	4.17
SAT Peak Hour	F	658.3	1.25	F	1836.5	2.81	F	1665.2	2.32
RT from Skyline Dr EB									
AM Peak Hour	C	16.9	0.04	C	19.0	0.04	C	20.4	0.13
PM Peak Hour	B	13.6	0.05	B	14.5	0.06	B	14.6	0.07
SAT Peak Hour	C	17.3	0.12	C	19.0	0.13	C	18.9	0.13
Great Rd NB									
AM Peak Hour	A	1.4	0.05	A	1.5	0.06	A	1.2	0.05
PM Peak Hour	A	0.8	0.02	A	1.1	0.03	A	2.0	0.05
SAT Peak Hour	A	1.5	0.05	A	1.8	0.06	A	1.8	0.06
Great Rd SB									
AM Peak Hour	A	0.0	0.57	A	0.0	0.63	A	0.0	0.63
PM Peak Hour	A	0.0	0.41	A	0.0	0.45	A	0.0	0.46
SAT Peak Hour	A	0.0	0.55	A	0.0	0.59	A	0.0	0.59

[1] LOS= Level of Service
[2] Delay = Average delay expressed in seconds per vehicle
[3] v/c = volume-to-capacity ratio
* Delay is incalculable

Conclusions

WDG has reviewed the potential traffic impacts associated with the proposed redevelopment of the Quail Ridge Country Club on the abutting Acorn Park residential neighborhood. The proposed project would provide two new roadway connections between the project site and the abutting residential Acorn Park neighborhood that would result in significant cut-through traffic on local area roadways.

Based on the project trip distribution patterns presented in the Traffic Impact Study prepared by Conley Associates, approximately 44 percent of the traffic increases associated with the 177 age-restricted residential units will cut through Acorn Park residential neighborhood, with approximately 20 percent using Hazelnut Street and 24 percent using Palmer Lane to access Great Road via Acorn Park Drive. These narrow (20 foot wide) neighborhood streets were designed to the Town of Acton's low intensity local roadway standards and were not intended to carry the projected traffic increases associated with the proposed project. The proposed project would result in daily traffic increases of 24.6 % to 425 % relative to the existing traffic levels on these streets and would exceed the Town of Acton's design capacity of 250 vehicle trips per day for low intensity local streets on Hazelnut Street, Palmer Lane and substantial portions of Acorn Park Drive.

In addition, a more detailed review of the intersection capacity analysis presented in the Appendix of the Conley Associates Traffic Impact Study indicates that the critical Acorn Park Drive eastbound approach at Great Road currently operates at LOS F with significant delays during the weekday morning and evening commuter peak hours and Saturday midday peak hours, which will be exacerbated by traffic increases associated with the proposed project. The Conley Associates' study indicates that this movement will operate significantly above the theoretical carrying capacity with a volume-to-capacity ratio of 1.78 under the projected 2012 Build (with Project) weekday evening peak hours conditions. The Skyline Drive eastbound approach at Great Road will also operate significantly above the theoretical carrying capacity with a projected volume to capacity ratio of 4.17 for the projected 2012 Build (with Project) weekday evening peak hour conditions. The projected delays could result in increased traffic accidents at both intersections as drivers choose to accept shorter gaps in the mainline traffic on Great Road to exit the site.

Based on a review of the Conley Associates Traffic Impact Study, and the supplemental analysis conducted as part of our study we conclude that, as currently proposed, the projected traffic increases associated with the proposed redevelopment of the Quail Ridge Country Club can not be accommodated on key Acorn Park neighborhood roadways and intersections serving the site. Potential access alternatives that would greatly reduce the projected traffic impacts on the Acorn Park neighborhood would be to eliminate the two proposed roadway connections to Acorn Park, or to designate these connections as gated emergency access only, which would prevent their use by the general driving public. This would require all of the proposed development traffic (both for construction and Residence vehicles) to access the site via Skyline Drive, which may require additional roadway and/or traffic control improvements at the intersection of Great Road to provide acceptable traffic operations during the weekday morning, weekday evening and Saturday midday peak hours. This report documents our findings.

We trust that the information will prove useful to the Town of Acton in their review of this project. We would be happy to meet with the Town of Acton to review our findings. If you have any questions or require further information, please feel free to call.

Sincerely,

Robert I. Woodland, P.E.
President

Appendix

PROJECTED TRAFFIC INCREASES ON ADJACENT NEIGHBORHOOD STREETS

	EXISTING ACORN PARK NEIGHBORHOOD TRAFFIC[1]				PROPOSED RESIDENCES AT QUAIL RIDGE[2]											
					PHASE I PROJECT TRIPS (97 UNITS)[2]			PHASE II PROJECT TRIPS (80 UNITS)[2]			PHASE I & II PROJECT TRIPS (177 UNITS)[2]			FUTURE NEIGHBORHOOD TRAFFIC (FULL BUILD)		
ROADWAY SCREENLINE	# ACORN PARK HOMES SERVED	DAILY ENTER	DAILY EXIT	DAILY TOTAL	DAILY ENTER	DAILY EXIT	DAILY TOTAL	DAILY ENTER	DAILY EXIT	DAILY TOTAL	DAILY ENTER	DAILY EXIT	DAILY TOTAL	DAILY ENTER	DAILY EXIT	DAILY TOTAL
ACORN PARK DR S OF RT 2A	82	605	910	1515	102	102	204	84	84	168	186	186	372	791	1096	1887
ACORN PARK DR S OF COMMERCIAL DR	82	392	393	785	102	102	204	84	84	168	186	186	372	578	579	1157
ACORN PARK DR SE SPLIT TO PALMER LA	22	105	106	211	102	102	204	0	0	0	102	102	204	207	208	415
PALMER LA E OF ACORN PARK DR	5	24	24	48	102	102	204	0	0	0	102	102	204	126	126	252
HAZELNUT ST W ACORN PARK DR	12	57	58	115	0	0	0	84	84	168	84	84	168	141	142	283

1 Existing Acorn Park Neighborhood Traffic estimated based on ITE Trip Generation rates for Land Use 210 (Single-Family Detached Housing) applied to the number of homes served by each roadway link.

2 Based on trip estimates and project trip distribution patterns presented in Conley Associates' Traffic Impact Study *The Residences at Quail Ridge Acton, Massachusetts* dated March 7, 2007.

Queue Analysis Table
The Residences at Quail Ridge - Acton, MA

Location	2007 Existing Conditions					
	Weekday AM		Weekday PM		Saturday Midday	
	Average Queue Length (ft)	95th Percentile Queue Length (ft)	Average Queue Length (ft)	95th Percentile Queue Length (ft)	Average Queue Length (ft)	95th Percentile Queue Length (ft)
Route 119/2A @ Route 27						
Route 27 NB Left	37	71	71	125	66	116
Route 27 NB Through	97	176	108	220	89	166
Route 27 NB Right	?	?	?	?	?	?
Route 27 SB Left	45	83	34	67	33	65
Route 27 SB Through	67	124	86	154	50	99
Route 27 SB Right	?	?	?	?	?	?
Route 119/2A WB Left/Through/Right	62	108	206	344	216	337
Route 119/2A EB Left/Through/Right	128	196	67	115	123	197
Route 119/2A @ Harris St/Acorn Park Dr						
Acorn Park Dr NB Left	x	15	x	61	x	30
Acorn Park Dr NB Through/Right	x	13	x	13	x	11
Harris St SB Left/Through	x	29	x	45	x	18
Harris St SB Right	x	11	x	39	x	11
Route 119/2A WB Left/Through/Right	x	1	x	3	x	4
Route 119/2A EB Left/Through/Right	x	9	x	11	x	5
Route 119/2A @ Skyline Dr						
Skyline Dr NB Left	x	3	x	61	x	74
Skyline Dr NB Right	x	3	x	4	x	10
Route 119/2A WB Left/Through	x	4	x	2	x	4
Route 119/2A EB Through/Right	x	0	x	0	x	0

Location	2012 No-Build Conditions					
	Weekday AM		Weekday PM		Saturday Midday	
	Average Queue Length (ft)	95th Percentile Queue Length (ft)	Average Queue Length (ft)	95th Percentile Queue Length (ft)	Average Queue Length (ft)	95th Percentile Queue Length (ft)
Route 119/2A @ Route 27						
Route 27 NB Left	40	75	81	174	73	127
Route 27 NB Through	100	186	112	228	93	179
Route 27 NB Right	?	?	?	?	?	?
Route 27 SB Left	46	85	35	68	34	66
Route 27 SB Through	70	129	94	169	54	106
Route 27 SB Right	?	?	?	?	?	?
Route 119/2A WB Left/Through/Right	70	121	267	386	250	369
Route 119/2A EB Left/Through/Right	157	272	85	144	152	284
Route 119/2A @ Harris St/Acorn Park Dr						
Acorn Park Dr NB Left	x	20	x	75	x	39
Acorn Park Dr NB Through/Right	x	17	x	16	x	13
Harris St SB Left/Through	x	38	x	59	x	23
Harris St SB Right	x	12	x	49	x	12
Route 119/2A WB Left/Through/Right	x	2	x	3	x	4
Route 119/2A EB Left/Through/Right	x	9	x	13	x	5
Route 119/2A @ Skyline Dr						
Skyline Dr NB Left	x	4	x	Err	x	90
Skyline Dr NB Right	x	3	x	5	x	11
Route 119/2A WB Left/Through	x	5	x	2	x	4
Route 119/2A EB Through/Right	x	0	x	0	x	0

Location	2012 Build Conditions					
	Weekday AM		Weekday PM		Saturday Midday	
	Average Queue Length (ft)	95th Percentile Queue Length (ft)	Average Queue Length (ft)	95th Percentile Queue Length (ft)	Average Queue Length (ft)	95th Percentile Queue Length (ft)
Route 119/2A @ Route 27						
Route 27 NB Left	40	75	83	183	73	128
Route 27 NB Through	100	186	112	228	93	179
Route 27 NB Right	?	?	?	?	?	?
Route 27 SB Left	46	85	35	68	34	66
Route 27 SB Through	70	128	96	171	54	106
Route 27 SB Right	?	?	?	?	?	?
Route 119/2A WB Left/Through/Right	70	121	273	392	252	371
Route 119/2A EB Left/Through/Right	165	287	86	147	153	285
Route 119/2A @ Harris St/Acorn Park Dr						
Acorn Park Dr NB Left	x	48	x	95	x	60
Acorn Park Dr NB Through/Right	x	23	x	18	x	22
Harris St SB Left/Through	x	40	x	61	x	32
Harris St SB Right	x	12	x	49	x	12
Route 119/2A WB Left/Through/Right	x	2	x	4	x	5
Route 119/2A EB Left/Through/Right	x	9	x	13	x	5
Route 119/2A @ Skyline Dr						
Skyline Dr NB Left	x	6	x	Err	x	75
Skyline Dr NB Right	x	11	x	5	x	11
Route 119/2A WB Left/Through	x	4	x	2	x	5
Route 119/2A EB Through/Right	x	0	x	0	x	0